- - REMARKS - -

Claims 1-27 remain in the case.

Herein, Applicant responds to the final rejection and objections and requests that this amendment be entered in this case as placing the application in better condition for allowance or appeal.

None of the references, taken singly or in combination, discloses or suggests Applicant's invention. This is pointed out in Applicant's prior responses and amendments, and further elaborated herein predicated upon a clarification of the Examiner's stated grounds for his holding of obviousness. In addition, the Supplemental Declaration of Terry Munson responds to comments by the Examiner and further clarifies the long felt but unfulfilled need filled by the invention.

A. THE OBJECTION TO THE SPECIFICATION AS ALLEGEDLY FAILING TO PROVIDE PROPER ANTECEDENT BASIS FOR THE CLAIMED SUBJECT MATTER IS ERRONEOUS AND IS RESPECTFULLY TRAVERSED.

1. The Specification provides proper antecedent basis for the term "the liquid supply means."

Contrary to the objection in the Office Action, the term "the liquid supply means" is clearly and unambiguously defined in the application. The term "liquid supply means" clearly denotes means for providing liquid supply. In the specification, the means for providing liquid supply comprise liquid pickup tube inlet 38, liquid pickup tube 40, pump 72, and reservoir (unnumbered) shown as reference numeral 30 in U.S. Pat. No. 4,414,037, incorporated by reference into the subject Patent Application. See Application, p. 4, lines 23, 24; page 5, lines 22; and U.S. Pat. No. 4,414,037, Fig. 2, Col. 4, lines 4-8.

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It is well-settled that a determination of whether a claim is indefinite depends on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the specification. See *Miles Lab, Inc. v. Shandon, Inc.*, 997 F.2d 870,875, 27 U.S.P.Q. 2d 1123, 1126 (Fed.Cir. 1993).

Clearly in light of the foregoing, the specification amply complies with the requirements set by law. Accordingly, the objection to the term "the liquid supply means" is not well-taken, and should be withdrawn.

2. The term "simultaneous" is correctly recited regarding output of the superheated vapor, and the objection thereto is erroneous.

This term is clearly defined as exemplified in the specification which is entirely concerned with a superheated vapor generation system which is in the nature of a "flash boiler."See for example the '037 patent, incorporated by reference into the subject patent application "the vapor generator is an internally etched flash-boiler type that is electrically heated." '037 Patent Col. 1 lines 34-35. See also Col.3, lines 32-35, '037 Patent, "Liquid of the type identified is pumped into a vapor generator for flash vaporization..."

See also (Exhibit 1) entry for "Flash Boiler" from Wikipedia: For a flash boiler "the water feed is quickly flashed into steam and superheated." The term "simultaneously" is used in connection with the modifier "substantially", whose meaning is "essentially; without material qualification; in the main; in substance; materially in a substantial manner." As defined in Black's Law Dictionary, page 1597, 4th Edition (1957). (True and correct copy attached as Exhibit 2).

It should be further noted that on a practical basis, the concurrently-filed Supplemental Declaration of Terry Munson establishes that the output response of superheated steam in Applicant's model 6609 apparatus embodying the invention of the instant Application is so rapid upon variation of input that it

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renders feasible the multistage process requiring precision and rapidity described therein. Supplemental Munson Declaration, paras. 6-13.

Accordingly, it is respectfully submitted that the objections to the specification are not well-taken, and should be withdrawn.

B. REJECTION UNDER 35 USC 112 of Claims 1-27 AS BEING ALLEGEDLY INDEFINITE REFERRING TO THE TERMINOLOGY/ELEMENT "LIQUID SUPPLY MEANS" IS ERRONEOUS AND SHOULD BE WITHDRAWN.

It should be noted that the term "liquid supply means" is employed in connection with the further terminology "for supplying liquid thereto [vaporization chamber]..." This is obviously a means plus function claim, and is clearly defined in the specification with the elements that are employed to provide liquid to the vaporization chamber as discussed above in section A.1.

Accordingly, the rejection on 35 USC 112 is erroneous, and should be reconsidered and withdrawn.

C. REJECTION OF CLAIMS 1-8 AND 11-27 FOR ALLEGED OBVIOUSNESS UNDER 35 USC 103 IS ERRONEOUS AND SHOULD BE RECONSIDERED AND WITHDRAWN.

The recent controlling authority from the United States Supreme Court entitled *KSR International v. Teleflex Inc.*, 550 U.S 1, No. 04-1350, 127 S. Ct. 1727, U.S.P.Q.2D 1385 (2007), squarely applies to render the obviousness rejection untenable. Specifically, the Court stated "[t]The court relied [in the Adams Case] upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious...the fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams's design was not obvious." *KSR* at 12.

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The description of the Hutchinson reference (U.S. 6,393,212) relied upon in the Office Action as support for the determination of obviousness, is in fact a misdescription, the Hutchinson reference actually being one which teaches away from the invention of the patent as claimed in the subject claims 1-8 and 11-27.

As stated at page 3 of the Office Action: "Hutchinson discloses a vapor generator having a vaporization chamber, the input port, the adjustable control means such as the control means (22) connected to the pump (20) for controlling the input liquid into the vaporization chamber to further control the pressure and volume of the output steam." Office Action, p. 3.

Contrary to the position taken in the Office Action as exemplified by the preceding quotation, control of pressure and volume of output in Hutchinson is primarily accomplished by output variable pressure regulating control valve 48. Hutchinson, Col. 6, lines 59, 60. Also contrary to the position taken in the Office Action, Hutchinson explains the true function of elements 20 and 22 as follows: "A centrally locating [sic] heating body 15 (Fig. 4) receives power input at 18 from a heater control 20 controlled by electronic control system 22. Fluid is supplied to inlet 12 from supply tube 24 connected to reservoir 26 or other source of fluid. Fluid is pumped via tube 24 from tank 26 by a low volume pulse pump 30 through check valves 32 and 34.

"Electronic control system 22 monitors the temperature and pressure in steam generating cylinder 10, and also the level of water in the water tank 26. Pulse type piston pump 30 provides low flow capacity and pressure required to inject feed water into the input 12 against the steam generating cylinder 10 internal pressure as regulated by output variable pressure regulating control valve 48." Hutchinson, Col. 6, lines 28-37; 54-60. (Emphasis added).

In striking contrast, Applicant's invention employs controlled fluid input, not temperature or heat content, and as a result, Applicant's invention has the extremely desirable operating characteristic of capability of rapid variation of output of superheated vapor

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under precise and responsive control. Thus Hutchinson, with its slow passage of steam through baffles, output control of pressure and volume, and control of temperature and heat, teaches away from Applicant's invention, and does not show, suggest, or disclose Applicant's novel and unobvious control system and combination. *KSR* at 12.

Further error is contained in Section 7 of the Office Action wherein the comment is made "It would have been obvious to modify the Friedheim devices in view of the Hutchinson teaching of controlling the output by controlling its input." This is error along the same lines as discussed above. Of course it is a truism that there must be some relationship between input and output; however, control of the output in Hutchinson is through output control 48, a valve, and (apparently) control of heat (not fluid input) and temperature of the superheated vaporization chamber.

KSR also squarely applies to this case with regard to its reaffirmation of the significance of the so-called "secondary considerations" of non-obviousness, among which is long-felt but unfulfilled need. *KSR* at 14.

Also erroneous is the contention in the Office Action that the first Munson Declaration left it "Unclear if the Declaration supports how this input/output was a long-felt need that was unsolved, thus this declaration does not seem to sufficiently provide an evidence to support the long-felt unsolved need."

Applicant respectfully traverses the aforesaid comments concerning the first Munson Declaration. Out of an abundance of caution, however, Applicant submits herewith the Supplemental Declaration of Terry Munson in Support of Patentability of Patent Application. The Supplemental Declaration gives a specific example of the vital importance of, and the filling of an unfulfilled need, of the invention of the patent as embodied in Applicant's Model 6609 apparatus.

As specified in Supplemental Munson Declaration paragraphs 6- 13, Applicant's Model 6609 embodying the invention of the Application is used for testing circuit boards having

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a number of specific sites with soldered connections having differing characteristics of size, location on the circuit board, amount and type of solder, among other parameters, involving subjecting selected sites to bursts of superheated steam having precisely controlled parameters such as velocity, pressure and duration. Supplemental Munson Decl, para. 6.

As stated in para. 8 of the Supplemental Munson Declaration, "upon subjecting the target soldered sites to bursts of superheated steam, debris results therefrom in the form of particles of flux and contaminants, among others. The debris is captured as the steam cools and condenses and goes into a container of solution. The solution is then tested for contaminants against a standard solution obtained in the above-stated manner from a standard circuit board known to be free of defects."

Mr. Munson goes on to describe the means by which the above-stated process is achieved and the requirements thereof which can be met only by the invention of the patent embodied in Applicant's Model 6609. "In the above-described process, precise and rapidly variable bursts of superheated steam are required. Testing cycles will be in a predetermined sequence with predetermined bursts of superheated steam, controlled very precisely as to duration, velocity, pressure, and direction. For example, in a typical cycle, the nozzle out of which emanates superheated steam, will be moved rapidly toward (or directed toward) a particular selected soldered site (designated for specificity 'Site A') requiring a burst of superheated steam at selected velocity, pressure and duration, calling for a precisely defined input of liquid (designated, say, 'Input No.1'). Once the burst of superheated steam is delivered from the output to Site A, the nozzle immediately moves toward (or is directed toward) the next selected site (designated for specificity as 'Site B'), whose required exposure to superheated steam has or may have different parameters of pressure, velocity, and duration from those for site A, and calling for a precisely defined input of liquid (designated for specificity as 'Input No.2')." Supplemental Munson Decl.para. (9).(Emphasis added).

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The Declarant goes on to explain that the above-stated procedure is repeated for all selected sites according to a predetermined protocol/sequence of inputs and directions of superheated steam flow, and further explains: "To be feasible, technically and economically, this process requires that there be the capability for rapid directing/deployment of the nozzle from one selected soldered site to the next. This process would be totally unfeasible and impractical if we were to employ Mr. Friedheim's superheated vapor generator with a preset, metered liquid input. Such a procedure would require using a number of differently directed nozzles, each with different metering of liquid input, obviously a cumbersome and unwieldy process or adjusting/changing the metering for each successive selected site—also obviously a hopelessly cumbersome and time consuming procedure. Both alternatives described above involving metered input are clearly untenable from the practical point of view." Supplemental Munson Decl, para. 10. (Emphasis added).

As further explained by the Declarant, the above-described process is usable for cleaning as well as testing in the same manner as described. Also, the Declarant explains, the process is applicable to cleaning generally, not merely to circuit boards. "The process using Mr. Friedheim's technology is uniquely adapted to cleaning and testing of objects having cleaning sites with different characteristics of fragility, size, composition and the like." Supplemental Munson Decl paras. 11-12.

At para. 13, the Declarant explains the importance and uniqueness of Applicant's invention: :"For many years, there has been a felt but unfulfilled need in my field of surface cleaning and testing for cleaning/testing devices which can rapidly deploy and rapidly adapt to different cleaning/testing requirements such as the presence of small and delicate parts on the same platform with large and sturdy parts. Mr. Friedheim's device known as the Model 6609, which embodies the technology of the subject patent application, alone fills this need."(Emphasis added).

The foregoing constitutes irrefutable evidence of the *KSR* - reaffirmed long-felt but unfulfilled need criterion of nonobviousness. *KSR* at 14.

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Accordingly, it is respectfully submitted that not only has the Patent Office failed to discharge its burden of demonstrating obviousness, but Applicant has provided a decisive case for novelty and nonobviousness for all claims in this application.

D. REJECTION OF CLAIMS 9, 10 FOR ALLEGED OBVIOUSNESS UNDER 35 USC 103 AS UNPATENTABLE OVER FRIEDHEIM (U.S. 5,471,556) or Friedheim (U.S.4,414,037) IN VIEW OF HUTCHINSON AS APPLIED TO CLAIMS 1-8 AND 11-27 AND FURTHER IN VIEW OF BERTHOUD (U.S. 3,863,841) IS ERRONEOUS AND SHOULD BE RECONSIDERED AND WITHDRAWN.

The Berthoud reference is inapposite and inapplicable on similar grounds as discussed above in connection with the Hutchinson reference. As demonstrated above, Claims 1-8 and 11-27 are patentable over the cited references and consequently Claims 9, 10 dependent from Claim 1 are themselves patentable.

The Berthoud reference adds nothing to the analysis of patentability, involving as it does, spray nozzles and control thereof for control of liquid at output for large volume and area spraying such as fields. As noted above, in the instant invention, output volume is controlled at the input by control of input liquid for vaporization.

Accordingly, the rejection of Claims 9 and 10 is erroneous, and should be reconsidered and withdrawn.

E. CONCLUSION.

Based upon the foregoing, it is respectfully submitted that all objections and rejections of the amended application are not well-taken, that all such objections and rejections should be reconsidered and withdrawn, and that the amended application should be allowed as to all claims.

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It is further respectfully submitted that the instant amendment should be entered in this case as placing the application in better condition for allowance or appeal.

Respectfully submitted,
EVANNS & WALSH

April 22, 2008

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Exhibit 1 Pg 1 of 1

Flash boiler

From Wikipedia, the free encyclopedia

A **Flash boiler** is a type of water-tube boiler, whose tubes are strong and close together with water pumped through the tubes. The tubes are kept very hot so the water feed is quickly flashed into steam and superheated. They have these advantages:

- Less weight and bulk.
- Less time to raise steam from cold.

A flash boiler is much easier than an ordinary boiler to overheat, as there is no large reservoir of water to keep the tubes from high temperature if the water flow is interrupted or inadequate.

Examples

Example include:

- industrial steam generators [1]
- the water-tube boilers of the monotube type used in steam cars, such as:
 - AMC
 - Doble
 - Gardner-Serpollet
 - Locomobile
- the very simple type of boiler found in pop-pop boats

References

1. ^ Clayton Thermal Products UK - Steam Generators Principle of Operation (http://www.claytonindustries.co.uk/Steam%20Generators/Principals%20of%20Operation.htm)

External links

- http://www.phoenixnavigation.com/ptbc/articles/ptbc38.htm



This article about a mechanical engineering topic is a stub. You can help Wikipedia by expanding it (http://en.wikipedia.org/w/index.php?title=Flash_boiler&action=edit) .

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Exhibit 2 Pg 1 of 1

hat kind of imperial constitution w
nted in answer to the prayer of a
was present. Calvin.

SCRIPTION. The act of writing o
er a written instrument; the at
ature to any document, whether
e of authenticating or attesting it,
terms as one's own expressions, o
s self by an engagement which

bscription is the act of the hand, wh
ct of the senses. To subscribe a pap
is only to write on the same paper
ss; to attest a will is to know that it
ch, and to certify the facts required
l and legal publication. In re Down
6.

written contract by which one
and pay for capital stock of a
o contribute a sum of money for
pose, either gratuitously, as in the
bing to a charity, or in consider
valent to be rendered, as a subscri
odical, a forthcoming book, a series
ments, or the like. Davis v. Rolley,
257 P. 746, 747; First Caldwell O
t, 100 N.J.L. 308, 127 A. 209, 210.

SCRIPTION LIST. A list of subsc
e agreement with each other or a

SELLIA. Lat. In Roman law. L
enches, occupied by the *judices*
r magistrates when they sat in ju
nguished from the *tribunal* of
in.

SEQUENS MATRIMONIUM TO
UM PRÆCEDENS. A subsequ
the parties] removes a previous
ious illicit intercourse, and leg
pring. A rule of Roman law.

SEQUENT. Following in
g later than something
monwealth v. Ellett, 174
765.

SEQUENT CONDITION,

SEQUENT CREDITOR.
editor who

SIDE. Something, usu
r given or appropriated
ugh its proper agencies, in
ress. Kennecott Copper Cor

prise, work, or improvement in which the government desires to participate, or which is considered a proper subject for state aid, because likely to be of benefit to the public.

In English law. An aid, tax, or tribute granted by parliament to the king for the urgent occasions of the kingdom, to be levied on every subject of ability, according to the value of his lands or goods. Jacob.

In international law. The assistance given in money by one nation to another to enable it the better to carry on a war, when such nation does not join directly in the war. Vattel, bk. 3, § 82.

SUBSISTENCE. Support. Majors v. Lewis and Clark County, 60 Mont. 698, 201 P. 268, 269. Means of support, provisions, or that which procures provisions or livelihood. Dyer v. Dyer, 212 N.C. 628, 194 S.E. 278.

SUBSOIL. The word includes, *prima facie*, all that is below the actual surface, down to the center of the earth. 17 L.J.C.P. 162. It is a wider term than mines, quarries, or minerals. 2 L.R. Ir. 339.

SUBSTANCE. Essence; the material or essential part of a thing, as distinguished from "form." State v. Burgdoerfer, 107 Mo. 1, 17 S.W. 646, 14 L.R.A. 846; Pierson v. Insurance Co., 7 Houst., Del., 307, 31 A. 966; Metzroth v. City of New York, 231 N.Y. 470, 150 N.E. 519, 520; State v. Gregory, 198 Iowa 316, 198 N.W. 58, 60. That which is essential. Rose v. Osborne, 136 Me. 15, 1 A.2d 225, 226.

It means not merely subject of act, but an intelligible abstract or synopsis of its material and substantial elements, though the "substance" may be stated without recital of any details. State, on Inf. of Murphy, v. Brooks, 240 Ala. 55, 1 So.2d 370, 371.

STANTIAL. Of real worth and importance; considerable value; valuable. Tax Commission ... American Humane Education Soc., 42 ... 181 N.E. 537. Belonging to substantially existing; real; [illegible] or ... substantive; solid; [illegible]. ... Oil Co., 145 Kan. 318, 65 P.2d ... something worth while as distinguished ... without value or merely nominal. ... Estate, 178 Wash. 1, 34 P.2d 268. ... with material. Lewandowski v. Fin... 299, 29 A.2d 762, 764.

... bankrupt's property is "substantial" so as to ... proceeding it there are available facts ... sufficient to support a reasonable legal ... upon which it should be allowed. Atlanta ... Insulation Co. v. Russell, C.C.A.Ga., 145 F.2d ...

...TANTIAL COMPLIANCE RULE. In life ... law is that where insured has done substantially all he is required to do under policy to ... in beneficiary and such material ... 's officers and agents only remain ... change will take effect. Inter-South-

SUBSTANTIAL EQUIVALENT OF PATENTED DEVICE. Same as thing itself, so that if two devices do same work in substantially same way, and accomplish substantially same results, they are equivalent, even though differing in name, form, or shape. Bedell v. Dictograph Products Co., 251 App.Div. 243, 296 N.Y.S. 25, 32; Freeman v. Altvater, C.C.A.Mo., 66 F.2d 506, 511.

SUBSTANTIAL JUSTICE. Justice administered according to the rules of substantive law, notwithstanding errors of procedure. Interstate Bankers Corporation v. Kennedy, D.C.Mun.App., 33 A.2d 165, 166.

SUBSTANTIAL PERFORMANCE. Exists where there has been no willful departure from the terms of the contract, and no omission in essential points, and the contract has been honestly and faithfully performed in its material and substantial particulars, and the only variance from the strict and literal performance consists of technical or unimportant omissions or defects. Cotherman v. Oriental Oil Co., Tex.Civ.App., 272 S.W. 616, 619; Brown v. Aguilar, 202 Cal. 143, 259 P. 735, 737; Cramer v. Esswein, 220 App.Div. 10, 220 N.Y.S. 634; Connell v. Higgins, 170 Cal. 541, 150 P. 769, 774. Performance except as to unsubstantial omissions with compensation therefor. Cassino v. Yacevich, 261 App.Div. 685, 27 N.Y.S. 2d 95, 97, 99.

Equitable doctrine of "substantial performance" protects against forfeiture, for technical inadvertence or trivial variations or omissions in performance. Sgarlat v. Griffith, 345 Pa. 42, 36 A.2d 330, 332.

SUBSTANTIALLY. Essentially; without material qualification; in the main; in substance; materially; in a substantial manner. Kirkpatrick v. Journal Pub. Co., 210 Ala. 10, 97 So. 58, 59; Gibson v. Glos, 271 Ill. 368, 111 N.E. 123, 124; McEwen v. New York Life Ins. Co., 23 Cal.App. 694, 139 P. 242, 243. About, actually, competently, and essentially. Gilmore v. Red Top Cab Co. of Washington, 171 Wash. 346, 17 P.2d 886, 887.

SUBSTANTIATE. To establish the existence or truth of, by true or competent evidence, or to verify. State v. Lock, 302 Mo. 400, 259 S.W. 116, 120; Graves v. School Committee of Wellesley, 299 Mass. 80, 12 N.E.2d 176, 179.

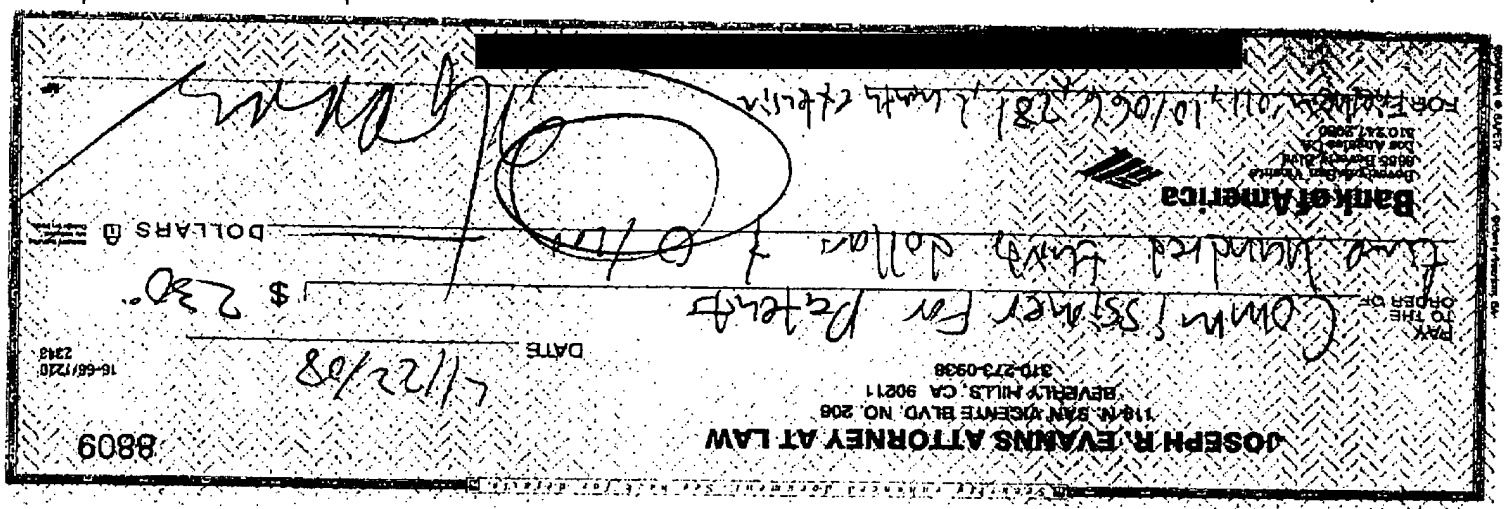
SUBSTANTIVE. An essential part or constituent or relating to what is essential. Stewart-Warner Corporation v. Le Vally, D.C.Ill., 15 F.Supp. 571, 576.

SUBSTANTIVE EVIDENCE. That adduced for the purpose of proving a fact in issue, as opposed to evidence given for the purpose of discrediting a witness, (i. e., showing that he is unworthy of belief) or of corroborating his testimony. Best, Ev. 244, 773, 803.

SUBSTANTIVE FELONY. An independent fel-

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4/22/08
Date

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Please acknowledge Receipt of the enclosed:

(1) AMD ORIGINAL
(2) SUPP. DECL. OF T. MUNSON
(3) PET. EXT. OF TIME
(4) AMEND. TRANSMITTAL
(5) FEE TRANSMITTAL

Check # 8809 Amt # 230.00

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REG. : 10/060,728
DOCKET : 1776-01

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

MAX FRIEDHEIM

Filed: 4/30/2001

Serial No.: 10/066,281

FOR: IMPROVED SUPERHEATED VAPOR GENERATOR SYSTEM AND METHOD

Group Art Unit: 3742

EXAMINER: S. Y. PAIK

SUPPLEMENTAL DECLARATION OF TERRY MUNSON IN SUPPORT OF PATENTABILITY OF PATENT APPLICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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TERRY MUNSON hereby declares under penalty of perjury, as follows:

(1) My name is Terry Munson. I am president and founder of Foresight Failure Analysis Inc., Kokomo, Indiana. I make this supplemental declaration in support of patentability of the subject United States Patent Application of Mr. Max Friedheim. I make this supplemental declaration on personal knowledge and have first-hand familiarity with the contents of this supplemental declaration. If called as a witness, I could and would testify in accordance with this supplemental declaration, under oath. I have more than 20 years of experience in the field of prediction of and elimination of failure of particular systems and parts, and specifically, failure due to surface conditions of such systems and parts. I have been employed in the medical field, in the United States Air Force and in the private sector on the above stated subject matter as well as a television news commentator in that field.

(2) As stated in my prior declaration, one of the important activities of my company involves applied surface analysis including testing used in connection with electronic equipment; another important activity of my company is the use of applied surface analysis in connection with pharmaceutical/biological products.

(3) As further stated in my prior declaration, my company's activities involve the diagnosis of and prediction of failures due to surface conditions as well as providing means and procedures for eliminating such sources of failure. Among the particular projects with which my company is involved are diagnosing and eliminating causes of failure in circuitboards and electronic hardware; plastic housing, special implants (such as titanium devices), and small, soldered areas. I am the inventor on U.S. Pat. No. 5,783,938 which is a standard in my field.

(4) Also as stated in my prior declaration, my company has been a customer for the superheated vapor cleaning equipment manufactured and sold by Mr. Max Friedheim, for a number of years. We have used and are using the equipment to clean conventional electronic equipment and other devices and to test for impurities in such equipment and devices.

(5) We are currently employing Mr. Friedheim's product model 6609 with output control on the input side (referred to in my prior declaration, para. 5) in connection with testing equipment, including circuit boards, for defects/impurities resulting from, among other other factors, improper manufacture, storage and/or transportation.

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(6) The testing procedure employing Mr. Friedheim's Model 6609 as a vital element is as follows for, as a specific example, testing a circuit board having a number of specific sites with soldered connections having different characteristics of size, location on the circuit board, amount and type of solder, among other parameters; this involves subjecting selected sites to bursts of superheated steam having precisely controlled parameters such as velocity, pressure, and duration.

(7) In the solder testing referred to in para. No. (6) above, the proctocol is to subject selected soldered regions/sites of the subject circuit board to precisely controlled (temperature, pressure, velocity, duration) bursts of superheated steam employing Mr. Friedheim's subject technology. In this procedure, the characteristics of the selected target soldered sites vary in terms of location, accessibility, structure, nature of the connection, type and amount of solder, among other parameters.

(8) Upon subjecting the target soldered sites to bursts of superheated steam, debris results therefrom in the form of particles of flux and contaminants, among others. The debris is captured as the steam cools and condenses and goes into a container of solution. The solution is then tested for contaminants against a standard solution obtained in the above-stated manner from a standard circuit board known to be free of defects.

(9) In the above-described process, precise and rapidly variable bursts of superheated steam are required. Testing cycles will be in a predetermined sequence with predetermined bursts of superheated steam controlled very precisely as to duration, velocity, pressure, and direction. For example, in a typical cycle, the nozzle out of which emanates superheated steam will be moved rapidly toward (or directed toward) a particular selected soldered site (designated for specificity as "Site A") requiring a burst of superheated steam at selected velocity, pressure, and duration calling for a precisely defined input of liquid (designated, say, "Input No.1"). Once the burst of superheated steam is delivered from the output to Site A the nozzle immediately moves toward (or is directed toward) the next selected site (designated for specificity as "Site B"), whose required exposure to superheated steam has or may have different parameters of pressure, velocity, and duration, from those for Site A, and calling for a precisely defined input of liquid (designated for specificity as "Input No. 2").

(10) The above-described process is repeated for all selected sites according to the predetermined protocol/sequence of inputs and directions of superheated steam flow. To be feasible technically and economically, this process requires that there be the capability for rapid directing/deployment of the nozzle from one selected soldered site to the next. This process would be totally unfeasible and

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impractical if we were to employ Mr. Friedheim's prior superheated vapor generator with a preset, metered liquid input. Such a procedure would require using a number of differently directed nozzles each with different metering of liquid input, obviously a cumbersome and unwieldy process or adjusting/changing the metering for each successive selected site – also obviously a hopelessly cumbersome and time-consuming procedure. Both alternatives described above involving metered input are clearly untenable from the practical point of view.

(11) The foregoing-described process is usable for cleaning as well as testing in the same manner as described above.

(12) Also, the above-described process applies to cleaning generally not merely to circuit boards. The process using Mr. Friedheim's technology is uniquely adapted to cleaning and testing of objects having cleaning sites with differing characteristics of
fragility, size, composition and the like.

(13) For many years there has been a felt but unfulfilled need in my field of surface cleaning and testing for cleaning/testing devices which can rapidly deploy and rapidly adapt to different cleaning/testing requirements, such as the presence of small and delicate parts on the same platform with large and sturdy parts. Mr. Friedheim's device known as the Model 6609, which embodies the technology of the subject patent application, alone fills this need.

I hereby declare under penalty of perjury under the laws of the State of Indiana, that the foregoing is true and correct.

Executed this 4 day of February, 2008 at Kokomo, Indiana.

TERRY MUNSON

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